

634-015

Dart Aerospace Ltd.

Thursday, 23/10/2008 1:23:34 PM
e Dawson

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SKID TUBE ASSEMBLY

Job Number : 42895A

Estimate Number : 12520

P.O. Number :

This Issue : 23/10/2008 S.O. No. :

Prsht Rev. : NC

First Issue : // Type : SKIDTUBES

Previous Run : 42894A

Part Number : D205634045

Drawing Number : D2580 REV D

Project Number : N/A

Drawing Revision : D

Material :

Due Date : 01/02/2009 Qty: 1 Um: Each

Written By :

Checked & Approved By : JLD 08.10.23

Comment : Est Rev:C Revised Steps 06-09-06 JLM
Est Rev:D Added SS Wearplates & Gaskets 07-07-09 JLM

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy D205-634 bluefile & type labels per PPP D205-634-045 CHG002

2.0 D25001190 Ext'n -1' Beam Tube 4"



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2500-1-190 Skid Tube Extrusion B37544

JD 8-11-12

3.0 D2596 Web, 205 Skidtube



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Pick:

Qty Part Number Description Batch

1 D2596 205 Web B-43374AWM
5-11-25

4.0 SKIDTUBES 1 SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2580 if necessary Debur ends

3-Drill pilot holes using drill jig DT 8149

4-Acid etch and Alodine tube per QSI 005 4.1

7 JD 8-11-13

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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Job Number: 42895A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description:

5-Open holes to 0.500" as per Dwg D2580 without cutting fluid

6-Countersink holes as per Dwg D2580 without cutting fluid

7-Deburr and blow out all chips from inside of tube

8-Add extra holes to web prior to bonding, per DEO 9183

9-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting
Pick:

| Qty | Part Number | Description | Batch |
|-----------------------|--------------|-------------|---------------|
| A/R | Sikaflex-291 | M107883 | |
| Sikaflex expire date: | | 9-7-1 | |
| Start Time: | | 9:45 | Date: 8-11-28 |
| Fin Time: | | 2:00 | Date: 8-12-01 |

7 JB 8-11-13
AWM 8-11-28

- AWM

5.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

7T 08-12-01

6.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends after cutting. Remove alodine from around holes

2-Drill extra fwd hole as per DEO 9183 using
drill jig DT8461

3-Drill extra middle hole as per DEO 9183 using
drill jig DT8462

4-Drill pilot holes for aft cap using DT8215, ***DO NOT OPEN TO FINISH SIZE***

5-Drill extra aft holes as per DEO 9183 using
drill jig DT8463 locating from aft cap hole and aft saddle hole.

AWM 8-12-02

JB 8-12-22

JB 8-12-22

- AWM 8-12-02

- AWM 8-12-02

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 42895A

Part Number: D205634045

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|-----|-----|------------------------------|
| 7.0 | QC5 | INSPECT WORK TO CURRENT STEP |
|-----|-----|------------------------------|



Comment: INSPECT WORK TO CURRENT STEP

S 08/12/02 AC

| | | |
|-----|--------|-----------------------|
| 8.0 | D25763 | Step (maching detail) |
|-----|--------|-----------------------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Pick:

| Qty | Part Number | Description | Batch |
|-----|-------------|-------------|-------------|
| 1 | D2576-3 | Step | BE 08-12-02 |

| | | |
|-----|-------|------------------|
| 9.0 | D2579 | Crossbolt Spacer |
|-----|-------|------------------|



Comment: Qty.: 24.0000 Each(s)/Unit Total : 24.0000 Each(s)
Pick:

| Qty | Part Number | Description | Batch |
|-----|-------------|-------------|------------|
| 24 | D2579 | Spacers | BE 8-12-02 |

AWM 8-12-02

BY PCS

| | | |
|------|-------------|-----------------------|
| 10.0 | SKIDTUBES 1 | SKIDTUBESS RESOURCE 1 |
|------|-------------|-----------------------|



Comment: LARGE FABRICATION RESOURCE 1

1-Prepare tube for welding D2576-3 Step Remove alodine as required.

AWM 8-12-02

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

M109813

BE 08-12-02

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004. For D2579

spacers, weld one

side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

M109813

BE 8-12-02

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8217 Open holes to 19/64", adjust stopper not to hit web. Deburr

AWM 8-12-03

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Deburr holes

*****DO NOT COUNTERBORE EXTRA HOLES PUT IN AT STEP 13,14 AND 15 (LEAVE AT 0.384" Ø AS PER DEO 9183)****

7-Open aft cap holes to #6 Drill bit. Deburr

8-Drill pilot holes for Tow ring using DT8091, open to .640" and Deburr

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | | |
| | | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Process Sheet

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 42895A

Part Number: D205634045

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|------|------|-----------------------------------|
| 11.0 | QC10 | VISUAL INSPECTION OF GROUND WELDS |
|------|------|-----------------------------------|



Comment: VISUAL INSPECTION OF GROUND WELDS

S 08/12/03 (X)

| | | |
|------|-----|------------------------------|
| 12.0 | QC5 | INSPECT WORK TO CURRENT STEP |
|------|-----|------------------------------|



Comment: INSPECT WORK TO CURRENT STEP

(PB) S 08/12/03 (X)

| | | |
|------|-----------------|----------------------------|
| 13.0 | HAND FINISHING1 | HAND FINISHING RESOURCE #1 |
|------|-----------------|----------------------------|



Comment: HAND FINISHING RESOURCE #1
Pressure wash as per QSI 005

N 08-12-18 (X)

| | | |
|------|----------------|----------------|
| 14.0 | POWDER COATING | POWDER COATING |
|------|----------------|----------------|



Comment: POWDER COATING
Powder Coat ****GREEN****Sandtex (Ref: 4.3.5.8) as per QSI 005 4.3

M 102316

(1X)

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

3:45
320°F
4:15

M 08/12/18

| | | |
|------|-----|---|
| 15.0 | QC3 | INSPECT POWDER COAT/CHEMICAL CONVERSION |
|------|-----|---|



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09-01-05 (X)

| | | |
|------|-------|-----|
| 16.0 | D2855 | Cap |
|------|-------|-----|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Cap

Batch:

B42806

98

| | | |
|------|-------|------|
| 17.0 | AN35A | Bolt |
|------|-------|------|



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch:

M100088 *

98

09-01-05 (X)

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: D205-634-045 PAR #: N/A Fault Category: Prod/Kit/b NCR: (Yes) No DQA: D Date: 09/01/07
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: <u>08-116</u> | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|--------------------|-----------------|---|-----------------------------|--|--------------------|-----------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 8/12/9 | #60 found at | The aft holes are ^{per} D20 9183 are not as per drawing. Hole spacing are too close together by 0.080" NC found at step #13. | /posiur | → see NCR 08-116 -Fabricate Qty 4 + 0.000.500" x 0.115" with 0.080" YS chamfer out of 6061 T6 Bar M105671 | 8/12/11 | S exactly | /posiur | S 8/12/9 |
| | step #13. | R.C. J's part DT8463 is incorrect also inspected incorrectly * Lack of Attention * | /posiur | Drill out affected + bolt space. wed plugs in place per AS2004 H/R m M/C 9560 | 8-12-09 8/12-11 | S 8/12/9 S 8/12/11 | /posiur | S 8/12/9 |
| | | | /posiur | grind weld plug inside and out Drill and install new + bolt open per AS2004 B*41666 | 8/12-11 | S 8/12/11 | /posiur | S 8/12/9 |

NOTE: Date & initial all entries

* see attached sheet for measurements *

Date: Thursday, 23/10/2008 1:23:34 PM
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 42895A

Part Number: D205634045

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|------|------------|--------|
| 18.0 | AN960JD10L | Washer |
|------|------------|--------|



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Washer

Batch: M1105793

JS

| | | |
|------|-----------|--------|
| 19.0 | AN960C10L | washer |
|------|-----------|--------|



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

washer

batch M1109798

JS

| | | |
|------|-------------|--------|
| 20.0 | ALS71032130 | Insert |
|------|-------------|--------|



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Insert

Batch: M1105819

JS

X

| | | |
|------|--------|------|
| 21.0 | AN3C4A | BOLT |
|------|--------|------|



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

BOLT

Batch: M1110139

JS

| | | |
|------|---------|--------|
| 22.0 | D356613 | Gasket |
|------|---------|--------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: 1342417

JS

| | | |
|------|--------|--------|
| 23.0 | D35665 | Gasket |
|------|--------|--------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: 1343710

JS

| | | |
|------|--------|--------|
| 24.0 | D35661 | Gasket |
|------|--------|--------|



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: 1343709

JS

09-05-01 (KD)

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | | |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 42895A

Part Number: D205634045

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|------|---------|----------|
| 25.0 | D356413 | Wearshoe |
|------|---------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1342257

JS

| | | |
|------|---------|----------|
| 26.0 | D356411 | Wearshoe |
|------|---------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1343707

JS

| | | |
|------|--------|----------|
| 27.0 | D35649 | Wearshoe |
|------|--------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1342258

JS

| | | |
|------|--------|----------|
| 28.0 | D35645 | Wearshoe |
|------|--------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: 1343408

JS

| | | |
|------|--------|----------------------|
| 29.0 | D25943 | O-Ring, 205 Skidtube |
|------|--------|----------------------|



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: 1329908

JS

| | | |
|------|--------|--------------------|
| 30.0 | D25941 | Plug, 205 Skidtube |
|------|--------|--------------------|



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: 1335919

JS

| | | |
|------|-----------------|----------------------------|
| 31.0 | HAND FINISHING1 | HAND FINISHING RESOURCE #1 |
|------|-----------------|----------------------------|



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R

Sikaflex-291

M110110

JS

09-05-01

44

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Job Number: 42895A

Part Number: D205634045

Job Number:



Seq. #:

Machine Or Operation:

Description :

Sikaflex expire date: 09/07

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 M110110

Sikaflex expire date: 09/07

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

m109219

Batch:

09/01/06 (1)

32.0

QC5

INSPECT WORK TO CURRENT STEP



09/01/06 (1)



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

33.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-045

Location:

PPP Rev:

PPP 42895

09/01/06 (1)

34.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/01/07 (1)

Job Completion



09.01.07

| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
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NOTE: Date & initial all entries

DART

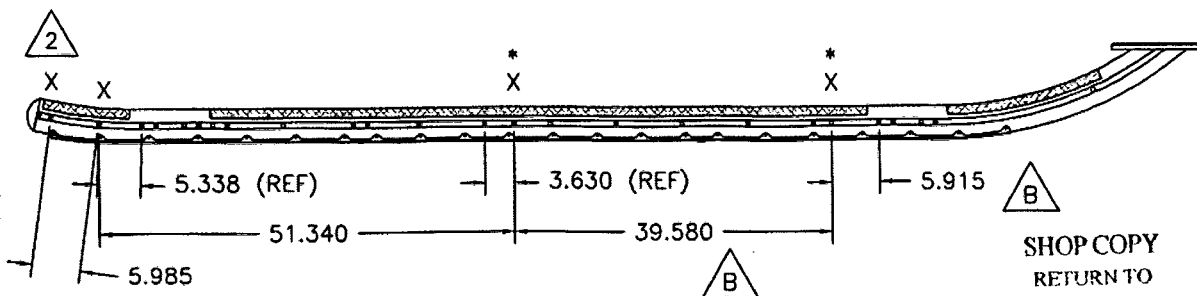
| | | | |
|------------------|-------------------------------------|---|------------------------|
| DESIGN RF | DRAWN BY RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED # | APPROVED # | DRAWING NO. DEO 9183 | REV. B SHEET 1 OF 1 |
| DATE 00.05.15 | TITLE ADD SKIDTUBE P/N D2580-045 | | SCALE NTS |
| A | 00.03.29 | NEW ISSUE | |
| B | 00.05.15 | 39.580 WAS 39.620 | |

DART ENGINEERING ORDER

AMEND DRAWING D2580 REV. C TO ADD D2580-045 ASSEMBLY

D2580-045 IS IDENTICAL TO D2580-041, EXCEPT FOR THE FOLLOWING CHANGES:

- 1) INSTALL CROSS BOLT SPACERS AT LOCATIONS MARKED 'X' ACCORDING TO THE FOLLOWING PROCEDURE.
 - a) DRILL $\varnothing 0.508$ HOLES AT LOCATIONS SHOWN BELOW MARKED 'X'. CHAMFER HOLES $0.030 \times 45^\circ$. NOTE THAT HOLES WILL ALSO HAVE TO BE TRANSFERRED TO THE D2596 WEB AT THE * LOCATIONS. IT IS ACCEPTABLE TO PRE-DRILL THE D2596 WEB IN THESE LOCATIONS BEFORE INSTALLING THE WEB IN THE SKIDTUBE. OPEN HOLES TO $\varnothing 0.63$ AND TOUCH UP WITH ALODINE PER QSI 005 4.1.
 - b) INSERT D2579 CROSS BOLT SPACERS INTO THE HOLES.
 - c) WELD INTO PLACE PER DART QSI 004 AND GRIND FLUSH.
 - d) REMOVE SPILL OVER LEAVING HOLE DIMENSION $\varnothing 0.380$ - $\varnothing 0.390$.
- 2) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION.
- 3) POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3 INSTEAD OF WHITE (REF. 4.3.5.1).



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WITHOUT NOTICE
WORK ORDER
NO. 428957

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DART

| | | | |
|------------------------|-------------------------|---|------------------------|
| DESIGN RF | DRAWN BY RF | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED [Signature] | APPROVED [Signature] | DRAWING NO. DSI 9184 | REV. A SHEET 1 OF 1 |
| DATE 00.03.29 | | TITLE ADD SKIDTUBE P/N D205-634-015 | SCALE NTS |
| A | 00.03.29 | NEW ISSUE | |

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D205-634 REV. B.

REF. CANADIAN STA: SH96-88
US FAA STC: SR00563NY

ADD D205-634-015 INSTALLATION. PARTS LIST IS IDENTICAL
TO PARTS LIST FOR D205-634-011 EXCEPT THAT:
D205-634-045 REPLACES D205-634-041
D2580-045 REPLACES D2580-041

THE DIFFERENCE BETWEEN D205-634-011 (D205-634-041)
AND D205-634-015 (D205-634-045) IS THAT EXTRA
SPACERS HAVE BEEN ADDED AT LOCATIONS MARKED 'X' AND
ASSEMBLY IS PAINTED GREEN.



D205-634-015 (D205-634-045)

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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 42895A

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| W/O: | | WORK ORDER CHANGES | | | | | | |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | | |
| | | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
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| | | | | | | | | |

NOTE: Date & initial all entries

DART

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|------------------|----------------|--|------------------------|
| DESIGN # | DRAWN BY PH | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED # | APPROVED # | DRAWING NO. D2580 | REV. D SHEET 1 OF 3 |
| DATE 07.02.27 | | TITLE 205 SKIDTUBE ASSEMBLY SCALE NTS | |
| A | 96.09.16 | NEW ISSUE | |
| B | 96.12.02 | AS MANUFACTURED | |
| C | 98.08.26 | REDRAWN, INCLUDED DEO 9094/9097 | |
| D | 07.02.27 | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 | |

RELEASED
07-06-28 #

| QTY -041 | QTY -045 | Part Number | Description |
|-------------|-------------|---|-------------------|
| X | | D2580-041 | SKIDTUBE ASSEMBLY |
| | X | D2580-045 | SKIDTUBE ASSEMBLY |
| | | | |
| 1 | 1 | D2500-1-190 | EXTRUSION |
| 1 | 1 | D2576-3 | STEP |
| 20 | 24 | D2579 | CROSS BOLT SPACER |
| 16 | 16 | D2594-1 | PLUG |
| 16 | 16 | D2594-3 | O-RING |
| 1 | 1 | D2596 | 205 WEB |
| 1 | 1 | D2855 | AFT CAP |
| 1 | 1 | D3564-5 | WEARSHOE |
| 1 | 1 | D3564-9 | WEARSHOE |
| 1 | 1 | D3564-11 | WEARSHOE |
| 1 | 1 | D3564-13 | WEARSHOE |
| 2 | 2 | D3566-1 | GASKET |
| 1 | 1 | D3566-5 | GASKET |
| 1 | 1 | D3566-13 | GASKET |
| | | | |
| 50 | 50 | ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130 | INSERT |
| 50 | 50 | AN3C4A | BOLT |
| 2 | 2 | AN3-5A | BOLT |
| 50 | 50 | AN960C10L | WASHER |
| 2 | 2 | AN960JD10L | WASHER |

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector | |
| | | | | | | | | |
| | | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
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| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
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NOTE: Date & initial all entries

RELEASED
07-06-28

Diagram illustrating the grinding and flushing locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\sqrt{1/4}$

Technical drawing of a bolted joint assembly. The drawing shows a circular cross-section of a component with a central hole. A bolt (AN3-5A) and washer (AN960JD10L) are shown passing through the hole. A cap (D2855) is shown being installed on the bolt. The drawing includes the following labels and dimensions:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)
- SEAL WITH SIKAFLEX-241/-291
- AN3-5A BOLT (1)
- AN960JD10L WASHER (1)
- (2 PLACES)
- D2855 CAP
- 0.40
- Ø0.208

5

D2579 SPACER

D2596 WEB (REF)

ALS7-1032-130 (REF)
(TYP 50 PLACES)

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

Technical drawing of a bridge deck cross-section showing dimensions and reinforcement details. The drawing includes the following elements:

- Top Dimensions:**
 - 37.50 (Total width)
 - DISTANCE TO AFT END OF D2596 WEB
 - 1.750 (Two segments)
 - 57.313 (REF) 7 EQUAL SPACES 8.188 PITCH
 - 190.0 (D2500-1)
- Bottom Dimensions:**
 - 38.0
 - 8.750
 - 17.375
 - 26.000
 - 34.188
 - 91.500
- Reinforcement Details:**
 - Ø0.508 (TYP.) (40 PLACES)
 - REFER TO DETAIL A (Two locations)
- Other Labels:**
 - 3 and 7 (Triangle symbols)

Technical drawing of a road cross-section showing a horizontal alignment with a 4% grade. The drawing includes dimensions for the road width (13.4m), distance between hole and tangent point (1.0m), and a 20.0m section with a 4% grade and a 0.640m offset. A 32.0±1.0m section is also indicated.

D3560-041 ASSEMBLY DETAIL

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5 1.5 1.5

D

P P P P P P P

8

1.5 1.5 1.5

REFER TO DETAIL C

D3566-1 D3566-5 D3566-1 D3566-13





D3564-11 D3564-5 D3564-9 D3564-13

AN3C4A BOLT (1)
AN960C10L WASHER (1)
(50 PLACES)

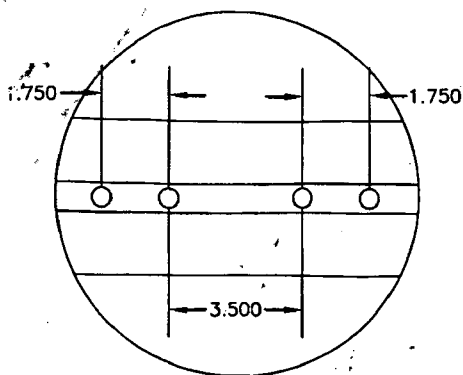
DESIGN

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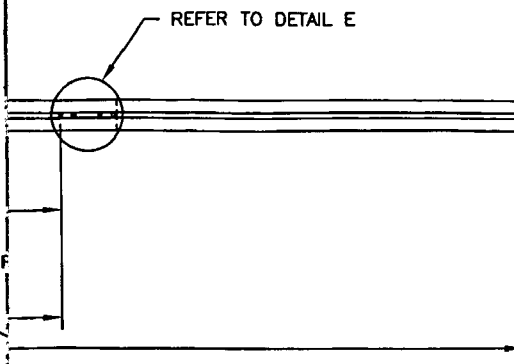
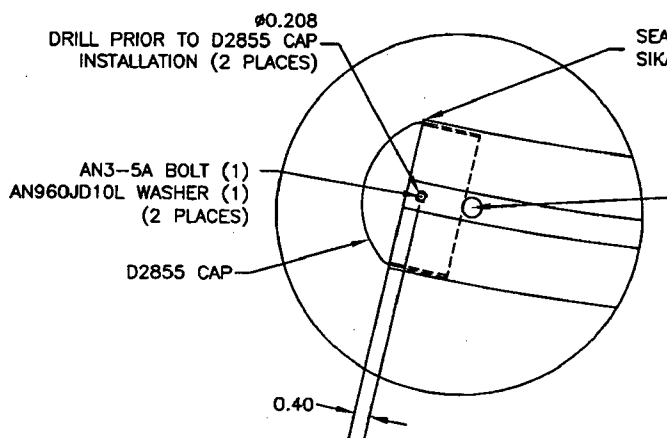
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| | CHECKED  | APPROVED  | DRAWING NO. D2580 | REV. D SHEET 2 OF 3 |
| | DATE 07.02.27 | TITLE 205 SKIDTUBE ASSEMBLY | | |

DETAIL E
SCALE 5:24

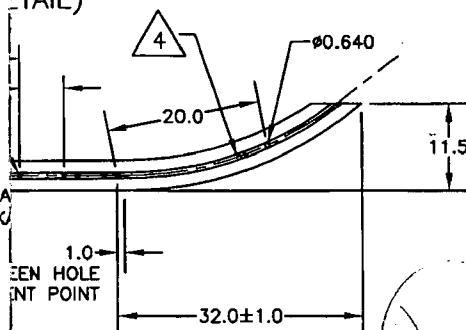


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07 Dec 18

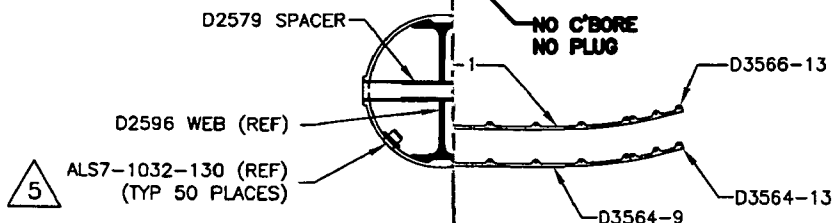
DETAIL G
SCALE 5:24



DETAIL F
(DETAIL)



SECTION SCALE



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D2580-045 NOTES

- FINISH: ACID ETCH, ALODINE PER DART
POWDER COAT ENTIRE ASSEMBLY
BLACK ANTI-SKID PAINT AS IN
- IT IS ACCEPTABLE TO GRIND A RELIEF
WITH THE SPACER AT THIS LOCATION

DRAWN BY

RH

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HAWKESBURY, ONTARIO, CANADA

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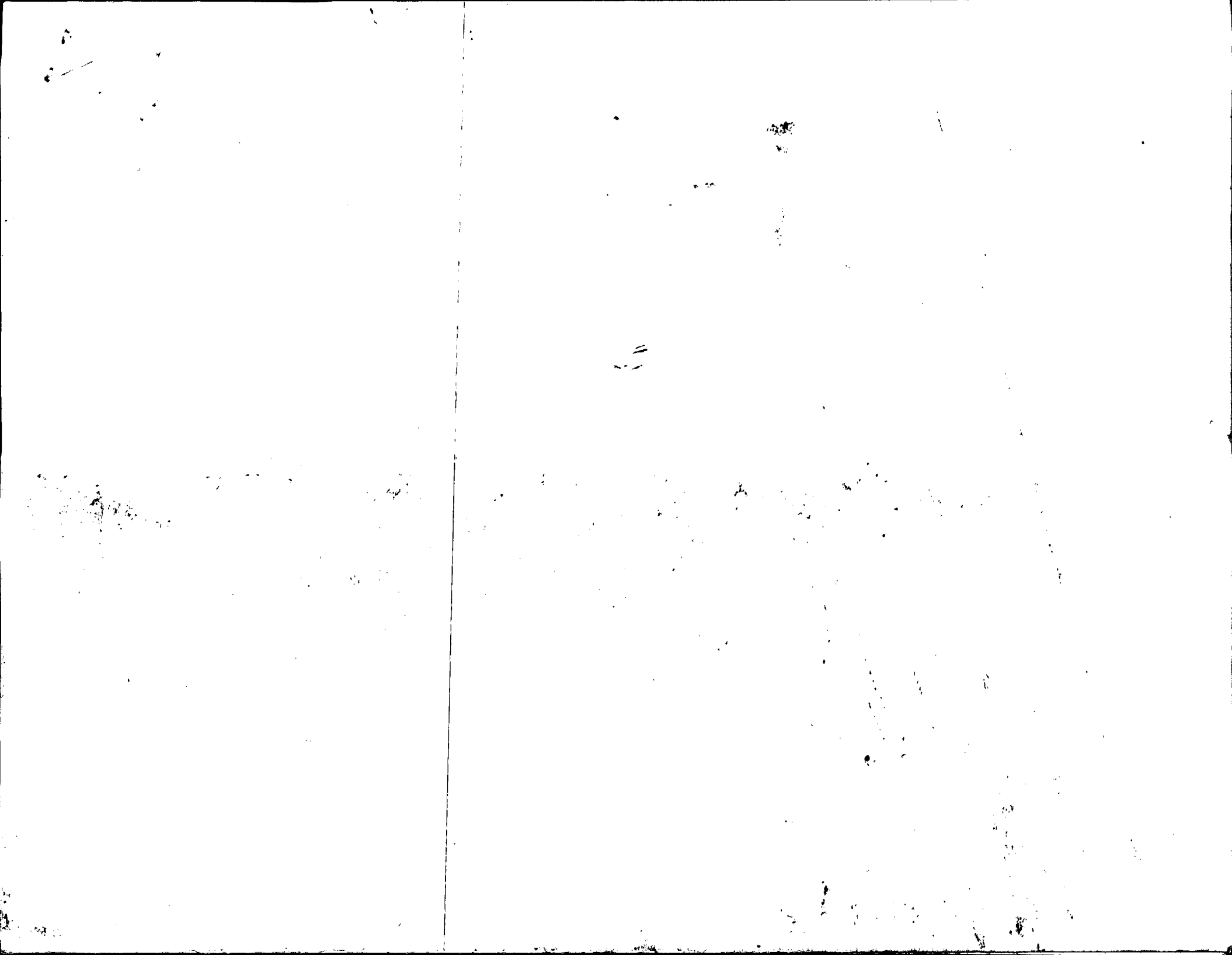
REV. D

SHEET 3 OF 3

TITLE
205 SKIDTUBE ASSEMBLY

SCALE

1:24



NO. 182

**AWS D17.1.2001
QUALIFICATION TEST RECORD**

Name: Barclay Elliot
Job number: B43240 A
Part number: A205 68 041
Description: 205 Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum.
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

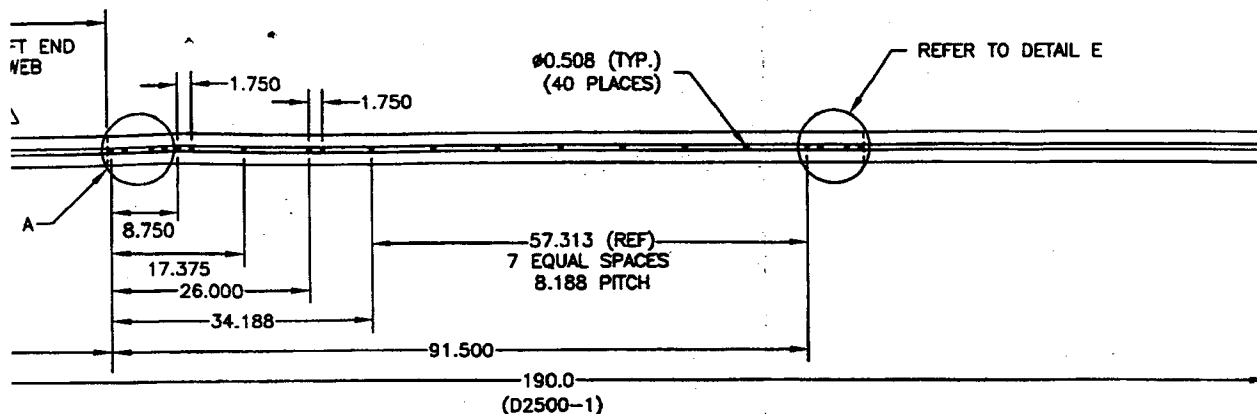
Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David Duval Date of Test Coupon 08/11/20

Welder Barclay Elliot Date of Test Coupon 08/11/20

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

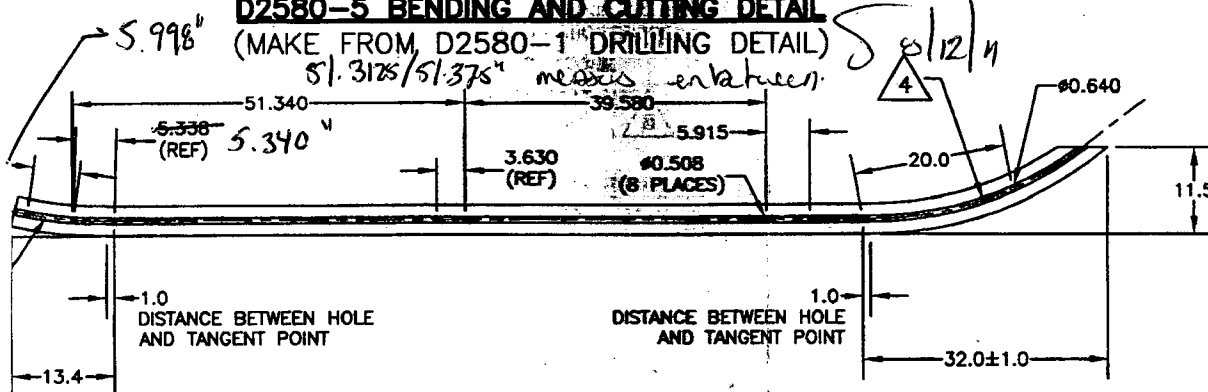
D2580-1 DRILLING DETAIL



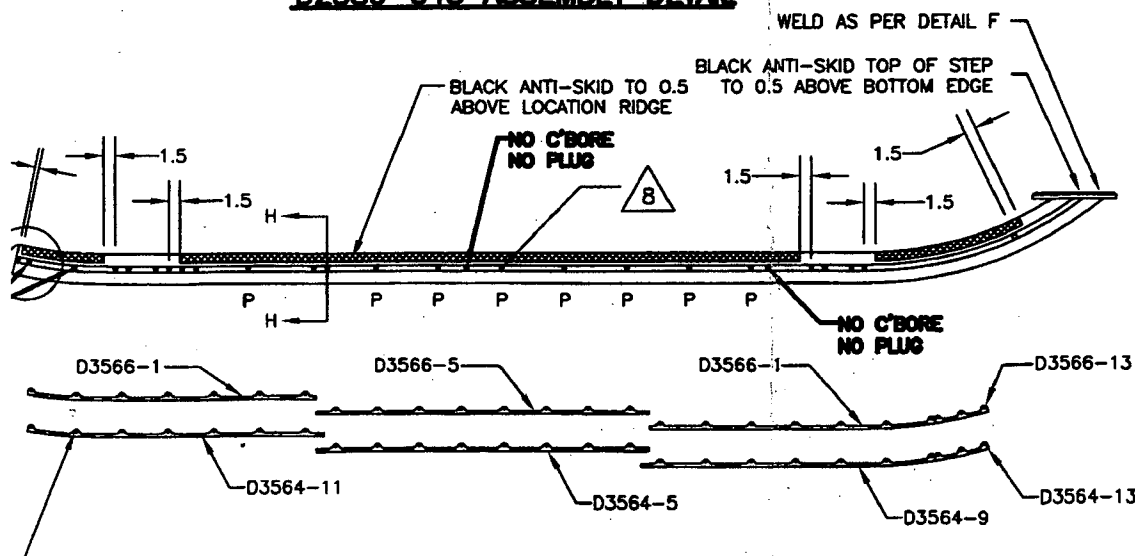
D2580-5 BENDING AND CUTTING DETAIL

(MAKE FROM D2580-1 DRILLING DETAIL)


51.3125/51.375" ¹⁰⁰ meters ¹⁰⁰ enlaten.



D2580-045 ASSEMBLY DETAIL



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| | DATE 07.02.27 | | TITLE 205 SKIDTUBE ASSEMBLY |